

AMENDMENTS TO THE CLAIMS/LISTING OF CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one [status identifier]. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1. deleted matter is shown by strikethrough for six or more characters and double brackets for five or less characters; and 2. added matter is shown by underlining.

1. (Currently Amended) A length measurement system for measuring relative movements between first and second machine parts, said measurement system comprising a sensing head and a rule sensed by it, said sensing head being securely mountable on the first machine part and said rule being connectable with the second machine part during final assembly of the length measurement system, wherein the rule is mounted within a profiled part which is securely mountable on the second machine part during final assembly and into which the sensing head protrudes, said sensing head being preadjusted, via a removable mounting element, and being releasably connected with said profiled part, in a state prepared for final assembly, ~~or said sensing head, when finally assembled, protruding into the profiled part without being supported thereon~~

wherein in the state prepared for final assembly, the mounting element connects the two legs of the profiled part with the sensing head; and

wherein the mounting element comprises two spacing members which are clamped within grooves of the sensing head by the profiled part.

2. (Previously Presented) The length measurement system as claimed in Claim 1, wherein the profiled part comprises an adhesive surface by which it can be adhered to the second machine part.
3. (Previously Presented) The length measurement system as claimed in Claim 1, wherein the profiled part is profiled in a U-shaped manner comprising two legs, one of said legs being mounted on the second machine part and carrying, at its interior surface, the rule, and the other of said legs embracing the sensing head in a non-contacting manner during measurement.
4. (Currently Amended) The length measurement system as claimed in Claim 1, wherein ~~in the state prepared for final assembly, the mounting element connects the two legs of the profiled part with the sensing head, when finally assembled, protrudes~~  
into the profiled part without being supported thereon.
5. (Currently Amended) The length measurement system as claimed in Claim 4, wherein the ~~mounting element comprises~~ two spacing members are each of cylindrical cross-section, ~~which are clamped within grooves of the sensing head by means of the profiled part~~.
6. (Previously Presented) The length measurement system as claimed in Claim 1, wherein the profiled part comprises a reference surface aligning the rule, which reference surface is contacted by the rule in its mounted state.

7. (Previously Presented) The length measurement system as claimed in Claim 6, wherein a bracing device braces the rule in a direction toward the reference surface.

8. (Previously Presented) The length measurement system as claimed in Claim 1, wherein during measurement, the sensing head protruding into the profiled part embraces the rule mounted thereon in a trilateral and non-contacting manner.

9. (Previously Presented) A method of final assembly of a length measurement system as claimed in Claim 1, comprising the steps of:

for final assembly, the profiled part is aligned with and mounted on the second machine part,

the sensing head is securely mounted on the first machine part in a gap-filling manner, and

the mounting element is removed so as to release the connection between the profiled part and the sensing head.

10. (Previously Presented) The method as claimed in Claim 9, further comprising the steps that the profiled part is roughly aligned with a longitudinal axis of the relative movement and is then adjusted, by means of a gauge, along said longitudinal axis, at a constant distance from the first machine part, the first and second machine parts being moved relative to each other so as to adjust the constant distance.

11. (Previously Presented) The method as claimed in Claim 10, further comprising the steps that a distance is adjusted using the gauge, said distance resulting in a predetermined gap between the first machine part and the sensing head prior to mounting the sensing head on the first machine part.

12. (Previously Presented) The method as claimed in Claim 9, further comprising the step that at least one of the sensing head and the profiled part is adhered to the respective machine part.

13. (Currently Amended) A method of final assembly of a length measurement system, the length measurement system for measuring relative movements between first and second machine parts, said measurement system comprising a sensing head and a rule sensed by it, said sensing head being securely mountable on the first machine part and said rule being connectable with the second machine part during final assembly of the length measurement system, the method comprising ~~the steps of~~:

mounting the rule within a profiled part which is securely mountable on the second machine part during final assembly and into which the sensing head protrudes,

preadjusting the sensing head via a removable mounting element having two spacing members, and releasably connecting the sensing head with said profiled part, in a state prepared for final assembly;

positioning the mounting element such that the mounting element connects the two parts of the profiled part with the sensing head; and

clamping the two spacing members within grooves between the sensing head and the profiled part.

14. (Currently Amended) A method of final assembly of a length measurement system, the length measurement system for measuring relative movements between first and second machine parts, said measurement system comprising a sensing head and a rule sensed by it, said sensing head being securely mountable on the first machine part and said rule being connectable with the second machine part during final assembly of the length measurement system, the method comprising ~~the steps of:~~

mounting the rule within a profiled part which is securely mountable on the second machine part during final assembly and into which the sensing head protrudes,

preadjusting the sensing head wherein when finally assembled, the sensing head protrudes into the profiled part without being supported thereon;

positioning a mounting element having two spacing members such that, in the state prepared for final assembly, the mounting element connects the two parts of the profiled part with the sensing head; and

clamping the two spacing members within grooves between the sensing head and the profiled part.